

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A process of producing a resin molded product, comprising:

forming a resist pattern on a substrate;

forming a metal structure by depositing a metal in accordance with the resist pattern on the substrate; and

forming a resin molded product by using the metal structure,

wherein the forming a resist pattern comprises:

forming a plurality of resist layers on the substrate; and

after the forming the plurality of resist layers, developing the plurality of resist layers through solubility control in such a way that an upper resist layer has lower solubility in a developer than a lower resist layer to from the resist pattern.

Claim 2 (Previously Presented): A process of producing a resin molded product according to Claim 1,

wherein the solubility control comprises heat treatment control performed before the developing the plurality of resist layers for controlling an amount of heat-treatment of the lower resist layer and the upper resist layer.

Claim 3 (Previously Presented): A process of producing a resin molded product according to Claim 2, wherein the forming a resist pattern comprises:

performing heat-treatment of the lower resist layer before exposure of the lower resist layer; and

performing heat-treatment of the upper resist layer before exposure of the upper resist layer.

Claim 4 (Previously Presented): A process of producing a resin molded product according to Claim 2, wherein the forming a resist pattern comprises:

performing heat-treatment of the lower resist layer after exposure of the lower resist layer; and

performing heat-treatment of the upper resist layer after exposure of the upper resist layer.

Claim 5 (Previously Presented): A process of producing a resin molded product according to Claim 1,

wherein the forming a resist pattern comprises, before the developing the plurality of resist layers:

exposing the lower resist layer; and

exposing the upper resist layer, and

the solubility control comprises exposure control for controlling an amount of exposure of the lower resist layer and the upper resist layer.

Claim 6 (Previously Presented): A process of producing a resin molded product according to Claim 1, wherein the lower resist layer and the upper resist layer are made of resist of which solubility in a developer changes by exposure and heat treatment, and

forming a resist pattern comprises, before the developing the plurality of resist layers, exposing the lower resist layer;

depositing the upper resist layer without performing heat treatment of the exposed lower resist layer; and

performing heat treatment of the upper resist layer after exposing the upper resist layer.

Claim 7 (Currently Amended): A process of producing a resin molded product having an uneven surface used for material processing, comprising:

forming a resist pattern on a substrate;

forming a metal structure by depositing a metal in accordance with the resist pattern on the substrate; and

forming a resin molded product by using the metal structure,

wherein the forming a resist pattern comprises:

forming a plurality of resist layers;

after the forming the plurality of resist layers, developing a lower resist layer exposed with a mask pattern and an upper resist layer exposed with a mask pattern of the plurality of the resist layers, to form a resist pattern having a raised or recessed portion with a plurality of different heights; and

developing the plurality of resist layers through solubility control in such a way that an upper resist layer has lower solubility in a developer than a lower resist layer.

Claim 8 (Previously Presented): A process of producing a resin molded product according to Claim 1, wherein the forming a resist pattern comprises:

depositing a plurality of resist layers; and

exposing the plurality of resist layers at a time with an exposure mask or exposing each of the plurality of resist layers with an exposure mask of the same pattern, to form a pattern with a predetermined height.

Claim 9 (Previously Presented): A process of producing a resin molded product according to Claim 7, wherein the forming a resist pattern comprises:

depositing a plurality of resist layers; and

exposing the plurality of resist layers at a time with an exposure mask or exposing each of the plurality of resist layers with an exposure mask of the same pattern, to form a pattern with a predetermined height.

Claim 10 (Previously Presented): A process of producing a resin molded product according to Claim 1, wherein the forming a resist pattern further comprises depositing and exposing one or more resist layers after exposing the upper resist layer, to create a raised or recessed portion with two or more different heights.

Claim 11 (Previously Presented): A process of producing a resin molded product according to Claim 7, wherein the forming a resist pattern further comprises depositing and exposing one or more resist layers after exposing the upper resist layer, to create a raised or recessed portion with two or more different heights.

Claim 12 (Previously Presented): A process of producing a resin molded product according to Claim 7, wherein the forming a resist pattern forms a resist pattern having a raised or recessed portion with a plurality of different heights in one development step.

Claim 13 (Currently Amended): A process of producing a resin molded product having a groove with a width of 2 to 500 μm and an aspect ratio of 1 or more, and a through-hole, comprising:

forming a metal structure; and

forming a resin molded product,

wherein the forming a metal structure comprises:

forming a first structure having an uneven surface;

forming a resist layer on the uneven surface of the first structure;

forming a resist pattern by forming a raised or recessed portion of the resist pattern on a raised portion of the uneven surface of the first structure, or by forming a recessed or raised portion of the resist pattern on a recessed portion of the uneven surface of the first structure, wherein the forming a resist pattern includes forming a plurality of resist layers and, after the forming the plurality of the resist layers, developing the plurality of resist layers through solubility control in such a way that an upper resist layer has lower solubility in a developer than a lower resist layer; and

forming a second structure by depositing material for forming the second structure on the uneven surface of the first structure where the resist pattern is formed.

Claim 14 (Previously Presented): A process according to Claim 1, wherein a light source used for exposure in the forming a resist pattern is an ultraviolet lamp or a laser.

Claim 15 (Previously Presented): A process according to Claim 7, wherein a light source used for exposure in the forming a resist pattern is an ultraviolet lamp or a laser.

Claim 16 (Previously Presented): A process according to Claim 11, wherein a light source used for exposure in the forming a resist pattern is an ultraviolet lamp or a laser.

Claim 17 (Previously Presented): A process of producing a resin molded product according to Claim 1, wherein a height of a raised or recessed portion of a resin molded product formed by the forming a resin molded product is substantially 5 μm to 500 μm .

Claim 18 (Previously Presented): A process of producing a resin molded product according to Claim 7, wherein a height of a raised or recessed portion of a resin molded product formed by the forming a resin molded product is substantially 5 μm to 500 μm .

Claim 19 (Previously Presented): A process of producing a resin molded product according to Claim 11, wherein a height of a raised or recessed portion of a resin molded product formed by the forming a resin molded product is substantially 5 μm to 500 μm .

Claim 20 (Withdrawn): A resin molded product produced by a process according to Claim 1, comprising at least one selected from a channel pattern, a mixing part pattern, a reservoir pattern, an electrode, a heater, and a temperature sensor.

Claim 21 (Withdrawn): A resin molded product produced by a process according to Claim 7, comprising at least one selected from a channel pattern, a mixing part pattern, a reservoir pattern, an electrode, a heater, and a temperature sensor.

Claim 22 (Withdrawn): A resin molded product produced by a process according to Claim 11, comprising at least one selected from a channel pattern, a mixing part pattern, a reservoir pattern, an electrode, a heater, and a temperature sensor.

Claim 23 (Withdrawn): A chip used for clinical laboratory testing, produced by a process according to Claim 1.

Claim 24 (Withdrawn): A chip used for clinical laboratory testing, produced by a process according to Claim 7.

Claim 25 (Withdrawn): A chip used for clinical laboratory testing, produced by a process according to Claim 11.

Claim 26 (Withdrawn): A chip used for combinatorial chemistry, produced by a process according to Claim 1.

Claim 27 (Withdrawn): A chip used for combinatorial chemistry, produced by a process according to Claim 7.

Claim 28 (Withdrawn): A chip used for combinatorial chemistry, produced by a process according to Claim 11.

Claim 29 (Withdrawn): A chip for genetic applications, produced by a process according to Claim 1.

Claim 30 (Withdrawn): A chip for genetic applications, produced by a process according to Claim 7.

Claim 31 (Withdrawn): A chip for genetic applications, produced by a process according to Claim 11.

Claim 32 (Withdrawn): A channel member for a fuel cell, produced by a process according to Claim 1.

Claim 33 (Withdrawn): A channel member for a fuel cell, produced by a process according to Claim 7.

Claim 34 (Withdrawn): A channel member for a fuel cell, produced by a process according to Claim 11.

Claim 35 (Canceled).

Claim 36 (Previously Presented): A process according to Claim 1, wherein the metal structure used for the forming a resin molded product has an uneven surface used for material processing, and

the forming a resist pattern includes developing the lower resist layer exposed with a mask pattern and the upper resist layer exposed with a mask pattern of the plurality of the resist layers, to form a resist pattern having a raised or recessed portion with a plurality of different heights.

Claim 37 (Previously Presented): A process according to Claim 1, wherein

the metal structure used for the forming a resin molded product has a groove with a width of 2 μm to 500 μm and an aspect ratio of 1 or more, and a through-hole connected to the groove, and

the forming the metal structure further comprises:

forming a first structure having an uneven surface;

forming a resist layer of the plurality of resist layers on the uneven surface of the first structure;

forming a resist pattern by forming a raised portion of the resist pattern on a raised portion of the uneven surface of the first structure, or by forming a recessed portion of the resist pattern on a recessed portion of the uneven surface of the first structure; and

forming a second structure by depositing material for the second structure on the uneven surface of the first structure where the resist pattern is formed.